certainly at the places where high temperature should be quite avoided, namely, where the flame beats on the roof, which possesses only very little receptivity for heat. Owing to this the temperature on the upper surface of the bath is able to be too low for the heating of the bath, as this is in the position to take up most heat.

Working with an air deficit, furnishes, in regard to lowering of temperature, even negative results, in case, as assumed herein, the oxygen is actually completely utilised.

The chambers are little influenced by means of changing the quantity of air, as is to be seen from what is given under the heading " Utilisation in the chambers," inasmuch as the heat retained of 7,068, 8,958, 4,982 calories, respectively, is still at all times greater than the available heat of the gas and air, which must be again led into the furnace proper, and which from statements, "Utilisation in the combustion chamber," amounts to 6,583, 8,589, 4,577 calories respectively. There thus remains in all cases an excess of 485, 469, and 405 calories respectively, so that the chambers cannot be cooled in this way, unl§ss by the presence of very large radiation losses.

The last items under the heading " Heat lost in waste gases" are interesting, in which is shown that in both instances, working with an incorrect amount of air, the loss amounts to about 3 per cent, higher than with correct quantities of air, but that, at least, for this example it practically possesses exactly equal height; inasmuch as, with air deficit, it is true that a portion of the combustible value goes to loss in the waste gases; this value, nevertheless, although it increases the available heat of the smaller waste gases, does not become higher than the available heat of the much larger quantity of waste gas with excess of air.

These means can thus exercise no great effect. If one is, however, compelled to make use of them, working with air deficit only can be taken into consideration. By working with excess air, one may well on the whole, attain the observed reaction, in particular; one will be obliged, however, to reckon on the entrance of one or more short flames, whose action it is impossible to prophesy.